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To gather information about case finding and special educational services for hard of hearing children, questionnaires were sent to state departments of education and of health, to an approximate 10% random sample of local school districts serving 600 or more students, to all known public and private facilities for the deaf, and to speech and hearing centers. State departments of education and health reported on types of hearing services required by laws, and qualifications of testing personnel, and 15 estimated the number of hearing impaired children in their states. Local school districts, divided into six groups according to student population, provided information on hearing testing services, method of provision (directly or through other facilities), educational services, and kinds of facilities providing educational services. Schools for the deaf indicated number of students enrolled, degree of hearing impairment, reasons for referral of hard of hearing students, and number and kinds of classes. Types of hearing testing services, kinds of programs for hard of hearing students, types of staff persons who usually perform services, and availability of other programs for children who complete the center program are described for speech and hearing centers. (RP)

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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INTRODUCTION

This interim report presents preliminary findings of a study of current practices in education for hard-of-hearing children undertaken by the Joint Committee on Audiology and Education of the Deaf. For the purpose of this study, hard-of-hearing children are those hearing impaired children with hearing levels for speech between 25 and 79 dB (ASA Standard).

Four different types of facilities were surveyed by questionnaire. The facilities included in this survey are state departments of education and state departments of health, an approximate 10% random sample (stratified by location and size) of local school districts that serve 600 students or more, all known public and private facilities for the deaf, and speech and hearing centers.

Questionnaires

Although a different questionnaire was developed for each of the four types of facilities surveyed, generally, the purpose of each questionnaire was to gather information about case-finding and special educational services for hard-of-hearing children. In the case-finding section of the questionnaire, questions were developed to determine the kinds of hearing testing services that are provided for children, the follow-up procedures, the number of hard-of-hearing children identified, the qualifications of the hearing testing personnel, the maintenance of

equipment, and the adequacy of hearing testing services. The educational section of the questionnaire deals with the kinds of special educational (including communication skills development) services that are provided for hearing impaired children (especially hard-of-hearing children), the number of hearing impaired children that are being provided such services, the qualifications of the personnel, and the adequacy of special educational services.

Each questionnaire contains also identification questions. For example, in the questionnaire for local school districts, there is a group of questions that deals with the grade range served, the kinds of population (urban, suburban, etc.) served, the student enrollment, and the budget. The questionnaire for state departments of education and health contains in addition a section on the laws and regulations that govern the provision of hearing services.

STATE DEPARTMENTS OF EDUCATION AND HEALTH

Section four of the questionnaire for state departments of education and state departments of health is concerned with the State laws and agency regulations that pertain to the provision of hearing testing services. Table 1 shows the types of hearing services required by State laws as reported by the participating states. Seventeen states reported that they have no such laws.

TABLE 1. Types of hearing services required by State laws.

Types of Hearing Services	No. of States
Hearing Testing and Special Educational Services	8
Hearing Testing Services Only	2
Special Educational Services Only	8
Other (Provision of Services for Specified Groups, etc.)	7
No such State Laws	17
Total	42

At least one department in 27 states reported that hearing testing services are provided directly by the department. Special educational services are provided directly by at least one department in 12 states. Although only fifteen of the states that provide direct hearing testing services reported the percent of the children who failed the screening hearing test, the wide spread in the reported percentages is worth noting. The lowest percentage of screening failures was 2.5%; the highest, 24%. A related question dealt with State laws and agency regulations governing hearing testing personnel. Again, the spread is worth noting. As little as two hours of training may be required. In other states hearing screening

personnel are required to be certified audiometric technicians or have completed an appropriate University or College course.

Fifteen states gave estimates of the number of hearing impaired children in their states, and eight (including one of the fifteen) gave estimates of the number of children with hearing levels for speech between 25 and 79 dB. The population for the fifteen states is 33% of the total population of children under 18 years in the United States[1]; the population of the eight states is 16% of this population. Based on the estimates of hearing impairments reported by the Illinois Commission on Children[2], there should be approximately 707,550 hearing impaired children in the fifteen states and approximately 227,300 children with hearing levels for speech between 25 and 79 dB in the eight states. The 15 states reported that there are approximately 763,588 hearing impaired children in their states. The eight states reported that there are approximately 183,047 children with hearing levels for speech between 25 and 79 dB in their states. It appears that the respondents who were able to provide prevalence information are fairly well aware of the hearing impaired or hard-of-hearing children in their states. It must not be forgotten, however, that approximately half of the states from which information was obtained in this survey were unable to provide prevalence information, or could provide only partial information.

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[1] Reader's Digest 1968 Almanac and Yearbook.

[2] Illinois Commission on Children, A Comprehensive Plan for Hearing Impaired Children in Illinois, Illinois, 1968.

LOCAL SCHOOL DISTRICTS

The findings to be presented here are based on 812 responses from a sample of 1,047[1] local school districts. Table 2 shows the number of local school districts that were selected to participate in the survey, the number of responses, and the percentage of responses for each student population range. From Table 2, it can be determined that a seventy-seven percent response was obtained from the sample of local school districts.

TABLE 2. Number of local school districts selected to participate in the survey, and number and percentage of responses for each student population range.

Student Population Ranges	No. of Study Districts	No. of Responses	Percentage of Responses
25,000 and over	182	155	85%
12,000 - 24,999	169	150	90%
6,000 - 11,999	169	138	82%
3,000 - 5,999	176	126	72%
1,200 - 2,999	183	127	69%
600 - 1,199	168	116	69%
	N = 1,047	N = 812	77%

Seven of the 812 returns were refusals; four in the 12,000 - 24,999 student population range, and three in the 1,200 - 2,999 range. Twenty other respondents did not complete the questionnaire; however, they did provide descriptive

[1]Two local school districts were excluded from the sample: one participant was also included in the survey of schools for the deaf and completed that questionnaire; and one participant in the 600 - 1,199 student population range provided information for the entire county.

information about their hearing services. The information obtained from these twenty school districts is presented in Table 3.

TABLE 3. Provision of hearing services, by student population range, for the twenty local school districts that did not complete the questionnaire.

Student Population Range	Hearing Services		
	No Services	Limited Testing and Referral	Services Provided Through Another Facility
Over 25,000			1
12,000 - 24,000			
6,000 - 11,999	3		2
3,000 - 5,999	4	2	1
1,200 - 2,999			1
600 - 1,199		3	3
Total	7	5	8

Of the 812 returns, 785 questionnaires were processed. Table 4 shows the number of school districts that provide direct hearing testing services, and the number of school districts that provide such services through other facilities (other school districts, state departments, speech and hearing centers, etc.). From Table 4, it can be seen that 97% of the local school districts provide for hearing screening services. The 58% response for the threshold tests is most probably too low. Some of the responses would suggest that the respondents included at least air threshold testing as a part of their screening procedure. Sixty-two percent of the school districts reported that they provide for special diagnostic hearing tests; 48% for hearing aid evaluations; and 78% for periodic testing of their known hearing impaired students. In response to a related question concerning hearing testing

services for preschool children, 25% of the 785 school districts reported that they provide for hearing screening of preschool children.

TABLE 4. Number of local school districts that provide directly or provide through other facilities the indicated hearing testing services and the percentage of local school districts that provide for each service.

Testing Services	Methods of Provision			% of Districts Providing For Services
	Directly By District (A)	Through Other Facilities (B)	A and B	
Auditory Screening	575	167	23	97%
Air and Bone Thresholds	238	202	14	58%
Special Diagnostic Hearing Tests	164	310	17	62%
Hearing Aid Evaluations	24	343	7	48%
Periodic Testing of Known Hearing Impaired Students	389	200	23	78%

Eighty-two local school districts (10%) reported that they do not have any students with permanent hearing impairments for whom they are responsible for the provision of educational services; twenty-nine of these 82 districts serve 3,000 students or more. This finding is surprising when we consider that the most generally accepted estimate of hearing impairments is 1 1/2 to 3% of the school-age population.[1] The information gathered in this survey would suggest that nurses and other facilities play a large part in the school hearing testing program, and it is possible that there is insufficient time, because of their dual responsibilities, for adequate communication between them (and other hearing testing personnel), and the personnel responsible for the provision of educational services for hearing

[1] Illinois Commission on Children, A Comprehensive Plan for Hearing Impaired Children in Illinois, Illinois, 1968.

impaired students. Another possibility is that some respondents may be unfamiliar with the special needs of students with mild and moderate hearing impairments, and, thus, their responses refer only to the severely hard-of-hearing and deaf population. Further study of the follow-up procedures of students identified as having hearing impairments and the criteria used by school administrators to determine which hearing impaired students need supplementary services appears urgent.

Detailed information was provided by 606 local school districts about the types of facilities from which educational services are provided for their hearing impaired students. The types of facilities that provide educational services for these 606 school districts are shown in Table 5.

TABLE 5. The number of school districts that provide educational services for their hearing impaired students through the indicated types of facilities.

Types of Facilities	No. of Districts
Local School District	205
Other School Districts	51
Schools for the Deaf	49
Local and Other School Districts	46
Local School District and Schools for the Deaf	124
Local School District, Other School Districts, and Schools for the Deaf	32
Other School Districts and Schools for the Deaf	18
Other Combinations	81
Total	606

It can be seen from Table 5 that 49 school districts provide for their hearing

impaired students through schools for the deaf only. This finding supports the earlier suggestion that some school administrators might not be aware of the special needs of students with mild or moderate hearing impairments and might not have reported them. Although, the survey of schools for the deaf indicates that some students with mild or moderate hearing impairments are placed in schools for the deaf.

Of the 448 local school districts that reported they provide educational services for at least some of their hearing impaired students, 194 (43%) reported that they are unable to provide all the special educational services including communication skills development, for their hearing impaired students. Fifty-six schools (12%) reported that their hearing impaired students are in regular classes because supplementary help is not available. Twenty-one other schools that provided only descriptive information about their special educational services reported that they do not provide any special services or that they provide only limited services.

The findings of the survey of local school districts would suggest that not only is it possible that there are hearing impaired students who have not been identified but, also, there are a considerable number of school districts that are unable to provide adequate special educational services (including communication skills development) for their known hearing impaired students.

SCHOOLS FOR THE DEAF

The findings of this survey are based on an 81% response[1] from facilities for the deaf (public and private residential schools for the deaf, public and private day schools for the deaf, and private day classes for the deaf). Seven of the 85 respondents did not complete the questionnaire. One respondent did not have time to participate; two respondents did not have anything to report because they are in the process of developing programs; two respondents reported that their facilities serve deaf students only; and two facilities (one of which serves six types of exceptionality) serve less than six hard-of-hearing students. The results to be reported here are based on 78 responses.

The number of hearing impaired students enrolled in the 78 facilities for the deaf in the 1967 - 68 school year was 15,263. Table 6 shows the student enrollment by degree of hearing impairment. Considering only the hearing impaired students for whom hearing threshold information was reported, 5147 (34%) have hearing levels for speech within the mild to severe range of impairment (25 - 79 dB).

Because the degree of hearing impairment is not the only determinant of how a hearing impaired child will function educationally, the respondents were asked how many of their students they consider to be educationally hard-of-hearing. Sixty-four respondents reported a total of 2,795 educationally hard-of-hearing students, or 18% of the total student enrollment for the 78 facilities for the deaf. Although 64 respondents reported that they have students enrolled in their facilities whom they consider to be educationally hard-of-hearing, only 24 respondents

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[1] Questionnaires were sent to 113 facilities for the deaf. The 78 responses reported here represent 82 facilities for the deaf; three participants (7 facilities) completed only one questionnaire to cover all the facilities that they administer. Four other facilities were included in one of the three other surveys. The 81% response was based on a possible response from 105 facilities for the deaf.

provide classes for their educationally hard-of-hearing students, and only four provide classes exclusively for hard-of-hearing students. (Six of the 24 facilities also provide classes for the hard-of-hearing only.)

TABLE 6. Student enrollment by degree of hearing impairment.

Degree of Hearing Impairment	Number of Students
25 - 39 dB	167
40 - 59 dB	956
60 - 79 dB	3,293
80 dB or more	8,659
Undetermined*	133
25 - 79 dB**	731
Total	13,939

A related question dealt with why students with hearing levels for speech for the better ear between 25 and 79 dB are referred to schools for the deaf. The respondents were asked to number in order of frequency (1 most frequent, 3 least frequent) the most frequent reasons for students with hearing levels for speech for the better ear between 25 and 79 dB being referred to their facilities. Table 7 presents the reasons such students are referred most frequently to 73 of the 78 facilities for the deaf. It can be seen from Table 7 that the most frequent referral reason is academic failure in regular classes in local school districts. Although the data has not been subjected to detailed analysis, when we consider that educationally hard-of-hearing students are enrolled in 64 of the 78 facilities for

*Hearing levels had not been obtained for these students (preschool, etc.).
**Four facilities for the deaf were unable to provide student enrollment information by the four-level breakdown.

the deaf and that only 28 facilities reported that they provide classes exclusively for hard-of-hearing students, it would seem essential to determine more exactly than is possible by a survey the kinds of programs facilities for the deaf are able to provide for hard-of-hearing students, and the reasons local school districts place hard-of-hearing students in regular classes. It would be regrettable if hard-of-hearing students are referred from programs that are unable to meet their needs to programs that are also unable to meet their needs.

TABLE 7. Most frequent reasons (1 most frequent reason, 2 next frequent, and 3 least frequent) for students with hearing levels for speech for the better ear between 25 and 79 dB being referred to facilities for the deaf.*

Referral Reason	1	2	3
Academic failure in hard-of-hearing program in local school district	8	4	4
Academic failure in regular class in local school district	31	10	6
Completed program(s) in local district(s)	1	2	1
Family circumstances		3	2
Lack of communication abilities	6	16	6
Location of program	1	3	2
Multiple handicaps	2	4	7
No program for hearing impaired in local school district	20	14	8
Retarded social development			7
Unable to learn to communicate orally	3	1	7
Other (Please Specify)	1	2	2
Total	73	59	52

*Table 7 presents the responses for 73 facilities. Four respondents did not answer the question correctly, and one respondent did not answer the question. Not all of the respondents gave second and third referral reasons.

SPEECH AND HEARING CENTERS

The findings reported here are based on a 79% response[1]. Of the 415 speech and hearing centers that have been included in the group of centers that provide hearing testing and/or special educational services (including communication skills development services, for children with hearing levels for speech for the better ear between 25 and 79 dB, 406 provide some hearing testing services. Table 8 shows the number and percentage of speech and hearing centers that provide the indicated special diagnostic hearing evaluations.

TABLE 8. Number and percentage of speech and hearing centers that provide the indicated special diagnostic hearing evaluations.

Special Diagnostic Hearing Evaluations	No. of Centers	Percentage of Centers
Speech Audiometry	316	78%
Békésy	200	49%
SISI	264	65%
Loudness Balance	273	67%
PGSR	179	44%
EEG	50	12%
ENG	37	9%

The kinds of programs that the respondents indicated that they provided for children with hearing levels for speech for the better ear between 25 and 79 dB in the 1967 - 68 academic year or the 1967 fiscal year are shown in Table 9.

[1] Seventy-nine percent of the 991 questionnaires that were mailed to speech and hearing centers were returned. Only the responses from 415 centers are presented in this report. The remainder of the responses, which will be discussed separately in the final report, were from centers that do not provide services for children, specialize in services for the speech handicapped, serve primarily multiply handicapped children, provide very limited services for hearing impaired children, etc.

From Table 9 it can be seen that communication skills development is the kind of special educational service provided by the majority of speech and hearing centers.

TABLE 9. The kinds of programs provided by the participating centers for children with hearing levels for speech for the better ear between 25 and 79 dB in the 1967 - 68 academic year or the 1967 fiscal year.

Kinds of Programs	No. of Centers
Self-contained day classes for deaf and hard-of-hearing (1/2-day or more)	35
Self-contained day classes for the hard-of-hearing only (1/2-day or more)	12
Regular nursery school and individual or small group communication skills development services	63
Individual or small group communication skills development services (less than 1/2-day)	291
Home program: tutor or therapist goes to the home	19
Others (Please Specify:_____)	11

A related question dealt with the type of staff person who usually performs certain special services for hard-of-hearing children. Table 10 shows the number of speech and hearing centers that employ speech pathologists, audiologists, or teachers of the deaf to perform five special services for hard-of-hearing children. Although the data has not been completely analyzed for this question, it is obvious that speech pathologists usually perform the five special services for hard-of-hearing children.

TABLE 10. The number of centers that employ speech pathologists, audiologists, or teachers of the deaf to perform the indicated services. (The respondents were asked to indicate the type of staff person who usually performs the service. If more than one type of staff person was checked, the one who was judged to be most qualified, e.g., academic tutoring - teacher of the deaf, was coded.)

Services	Types of Staff Persons		
	Audiologist	Speech Pathologist	Teacher of the Deaf
Academic tutoring	13	24	42
Auditory training	111	136	58
Language training	57	179	70
Speechreading	92	157	57
Speech therapy	17	289	12

Included in the questionnaire for speech and hearing centers, was a question about the availability of other programs for children who complete the programs provided by centers. This question was asked on the assumption that speech and hearing centers have the primary responsibility for the preschool child. A total of 344[2] speech and hearing centers responded to this question. Table 11 shows the number and percentage of centers that reported that appropriate programs are or are not available from other agencies for hard-of-hearing children who complete their programs. (Four responses were unusable.) From Table 11 it can be seen that more than half of the respondents to this question indicated that appropriate programs are not available for all the children who complete their programs.

[2]Thirty-five respondents indicated that they do not provide special educational services for hard-of-hearing children. Eighteen respondents indicated (Item 2) that they offer services for hard-of-hearing children, but they did not indicate that they provided any services in the 1967 - 68 academic year or the 1967 fiscal year. These fifty-three centers were excluded from the analysis of the data dealing with educational and ancillary services.

TABLE 11. The number and percentage of centers that reported that appropriate programs are or are not available from other agencies for the hard-of-hearing children who complete their programs.

Availability of Programs	No. of Centers	Percentage of Centers
YES	143	41
YES, for some children	163	47
NO	34	10
	N = 340	